

Type	L #	Hits	Search Text	DBs	Time Stamp	Comments	Error Definition
1 BRS	L1	93863	telephone or phone	USPAT	2001/05/25 11:17		
2 BRS	L2	387	surcharge	USPAT	2001/05/25 11:17		
3 BRS	L3	2292	discount	USPAT	2001/05/25 11:18		
4 BRS	L4	1129	rebate	USPAT	2001/05/25 11:18		
5 BRS	L5	247	11 same (12 or 13 or 14)	USPAT	2001/05/25 11:18		
6 BRS	L6	0	15 and 705/30-44	USPAT	2001/05/25 11:18		
7 BRS	L7	20	15 and 705/30-44.ccls.	USPAT	2001/05/25 11:26		
8 BRS	L8	14	("3652795" "4320387" "4341951" "4845636" "4926325" "4960981" "5025373" "5157717" "5383113" "5465206" "5485370" "5727163" "5751973" "5787403").PN.	USPAT	2001/05/25 11:20		
9 BRS	L9	13	11 and 705/418.ccls.	USPAT	2001/05/25 11:37		
10 BRS	L10	22	("2599357" "3002684" "3106613" "3294911" "3512355" "3917934" "4041291" "4065663" "4122308" "4161626" "4264956" "4445181" "4868758" "5517555" "5627887" "5634012" "5768521" "5799072" "5852812" "5859902" "5884284" "5923741").PN.	USPAT	2001/05/25 11:29		
11 BRS	L11	12212	bill	USPAT	2001/05/25 11:39		
12 BRS	L12	7236	monthly	USPAT	2001/05/25 11:39		

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	Type	L #	Hits	Search Text	DBs	Time Stamp	Comments	Error Definition
13	BRS	L13	204	111 near4 112	USPAT	2001/05/25 11:39		
14	BRS	L14	70	113 and 379/\$.ccls.	USPAT	2001/05/25 12:13		
15	BRS	L15	217	(12 or 13 or 14) and 379/\$.ccls.	USPAT	2001/05/25 11:40		
16	BRS	L16	10	("4979207" "5027388" "5218632" "5297189" "5301223" "5303297" "5325290" "5400395" "5546445" "5553131").PN.	USPAT	2001/05/25 12:09		
17	IS&R	L17	151	("455/406").CCLS.	USPAT	2001/05/25 12:18		
18	BRS	L18	130	forced adj2 post	USPAT	2001/05/25 12:18		
19	BRS	L19	0	118 same 111	USPAT	2001/05/25 12:19		
20	BRS	L20	101178 1	adjus\$	USPAT	2001/05/25 12:19		Truncation Overflow. Return string from Server is: 5`0`0`ADJ
21	BRS	L21	147	120 near3 111	USPAT	2001/05/25 12:20		
22	BRS	L22	36	121 and 11	USPAT	2001/05/25 12:21		
23	BRS	L23	1	121 same 11	USPAT	2001/05/25 12:24		
24	BRS	L24	9429	credit adj2 card	USPAT	2001/05/25 12:24		
25	BRS	L25	21338	transaction	USPAT	2001/05/25 12:24		
26	BRS	L26	626291	processing	USPAT	2001/05/25 12:24		
27	BRS	L27	55221	bank	USPAT	2001/05/25 12:24		

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22	0
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24	0
25	0
26	0
27	0

	Type	L #	Hits	Search Text	Dbs	Time Stamp	Comments	Error Definition
28	BRS	L28	1762	financial adj2 institut\$	USPAT	2001/05/25 12:25		
29	BRS	L29	99	(127 or 128) and 124 and 455/\$.ccls.	USPAT	2001/05/25 12:26		
30	BRS	L30	6561	gateway	USPAT	2001/05/25 12:26		
31	BRS	L31	289723	interface	USPAT	2001/05/25 12:26		
32	BRS	L32	99	129 and (124 or 125)	USPAT	2001/05/25 12:26		
33	BRS	L33	70	129 and (130 or 131)	USPAT	2001/05/25 12:29		
34	BRS	L34	15488	telecommunication	USPAT	2001/05/25 12:30		
35	BRS	L35	21	(130 or 131) same (134) same (127 or 128)	USPAT	2001/05/25 12:35		
36	IS&R	L36	1	("6160874").PN.	USPAT	2001/05/25 12:57		
37	BRS	L37	21	("4232199" "4577061" "4611096" "4625081" "4685127" "4706275" "4782519" "4791640" "4893330" "5068891" "5195086" "5222120" "5223699" "5452350" "5483582" "5590181" "5636371" "5640446" "5774695" "5825857" "5953406").PN.	USPAT	2001/05/25 12:36		
38	BRS	L38	8518	billing	USPAT	2001/05/25 12:58		
39	BRS	L39	753658	period	USPAT	2001/05/25 12:58		
40	BRS	L40	401974	cycle	USPAT	2001/05/25 12:58		
41	BRS	L41	825	(111 or 138) near4 (139 or 140)	USPAT	2001/05/25 12:58		

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	Type	L #	Hits	Search Text	DBs	Time Stamp	Comments	Error Definition
42	BRS	L42	145	(111 or 138) near4 (139 or 140) same 11	USPAT	2001/05/25 12:59		
43	BRS	L43	9	(111 or 138) near4 (139 or 140) same 11 same (12 or 13 or 14)	USPAT	2001/05/25 13:12		
44	IS&R	L44	449	("379/114").CCLS.	USPAT	2001/05/25 13:20		
45	BRS	L45	6	("5025372" "5056019" "5210789" "5608785" "5909486" "5991376").PN.	USPAT	2001/05/25 13:14		
46	BRS	L46	2212	invoic\$	USPAT	2001/05/25 13:20		
47	BRS	L47	15678	credit	USPAT	2001/05/25 13:20		
48	BRS	L48	67	(111 or 146) near9 (12 or 13 or 14)	USPAT	2001/05/25 13:21		
49	BRS	L49	0	(111 or 146) near9 (12 or 13 or 14) and (705/4.ccls. or 455/\$.ccls. or 379/4.ccls.)	USPAT	2001/05/25 13:22		
50	BRS	L50	46	(111 or 146) near9 (12 or 13 or 14) and (705/\$.ccls. or 455/\$.ccls. or 379/\$.ccls.)	USPAT	2001/05/25 13:28		
51	IS&R	L51	1	("5844972").PN.	USPAT	2001/05/25 13:28		

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	Type	L #	Hits	Search Text	DBs	Time Stamp	Comments	Error Definition
1	BRS	L1	87843	telephone	USPAT	2001/05/25 07:26		
2	BRS	L2	23059	phone	USPAT	2001/05/25 07:26		
3	BRS	L3	12212	bill	USPAT	2001/05/25 07:26		
4	BRS	L4	2292	discount	USPAT	2001/05/25 07:26		
5	BRS	L5	387	surcharge	USPAT	2001/05/25 07:26		
6	BRS	L6	7	((11 or 12) near4 13) same (14 or 15)	USPAT	2001/05/25 07:34		
7	BRS	L7	7236	monthly	USPAT	2001/05/25 07:34		
8	BRS	L8	128222	periodic	USPAT	2001/05/25 07:34		
9	BRS	L9	37	((17 or 18) near3 13) near5 (11 or 12)	USPAT	2001/05/25 07:35		
10	BRS	L10	37	((17 or 18) near3 13) near5 (11 or 12) and (17 or 18)	USPAT	2001/05/25 07:35		

	Err ors
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United States Patent [19]
Kramer et al. [11] Patent Number: 6,163,772
[45] Date of Patent: Dec. 19, 2000

[54] VIRTUAL POINT OF SALE PROCESSING
USING GATEWAY-INITIATED MESSAGES

[75] Inventors: Glenn A. Kramer, San Francisco; Jay C. Weber, Menlo Park, both of Calif.

[73] Assignee: Hewlett-Packard Company, Fort Collins, Colo.

[21] Appl. No.: 09/105,899

[22] Filed: Jun. 26, 1998

Related U.S. Application Data

[63] Continuation of application No. 08/668,118, Jun. 17, 1996, Pat. No. 5,812,668.

[51] Int. Cl. 7 G06F 17/60; H04L 12/66

[52] U.S. Cl. 705/79; 705/78; 713/153; 709/224; 709/249

[58] Field of Search 705/53, 16; 713/151, 152, 153, 201; 709/224, 230, 249

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Primary Examiner—Gilberto Bardon, Jr.

ABSTRACT

[57] Secure transmission of data is provided between a plurality of computer systems over a public communication system, such as the Internet. For example, secure transmission of data is provided between a merchant server and an acquirer gateway using Secure Electronic Transaction (SET) compliant messages. However, gateway-initiated messages are not SET compliant. Accordingly, secure transmission of data using additional messages that are not SET compliant is provided in accordance with one embodiment of the present invention. In one embodiment, a method for virtual point of sale processing using gateway-initiated messages, includes establishing a first communication link (e.g., operating under the Internet Protocol) between an acquirer gateway and a merchant server, the first communication link being initiated by the acquirer gateway, and transmitting a gateway-initiated message (e.g., a Multipurpose Internet Mail Extensions(MIME)-encapsulated PKCS-7 message that includes a request for management information base data of the merchant server) via the first communication link from the acquirer gateway to the merchant server. The method also includes establishing a second communication link (e.g., operating under the Internet Protocol) between the acquirer gateway and the merchant server, the second communication link being initiated by the merchant server, and transmitting a Secure Electronic Transaction (SET) message via the second communication link from the merchant server to the acquirer gateway.

27 Claims, 57 Drawing Sheets

